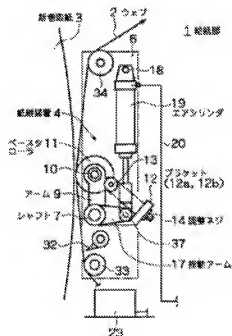


(43)Date of publication of application : 12.03.2003

(21)Application number : 2001-271119 (71)Applicant : MITSUBISHI HEAVY IND LTD
(22)Date of filing : 07.09.2001 (72)Inventor : TOYOMURA YUKIO

SOLUTION: This paper splicing device 4 of the rotary press comprises a paster roller 11 for pressing the running web 2 against the outer peripheral surface of the new roll of paper. Right and left arms 9a and 9b supporting the paster roller 11 are installed swingably through compressive springs 16. When a pressing force is not present on the paster roller 11, the right and left arms 9a and 9b are operated integrally with each other.



* NOTICES *

JPO and INPIT are not responsible for any
damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1]In a paper splicer of a rotary press provided with a paster roller which presses a web it runs to a peripheral face of new rolling-up paper, A paper splicer of a rotary press constituting so that the arm of said right and left may operate in one when an arm of right and left which support said paster roller is provided rockable via a spring, respectively and there is no thrust in said paster roller.

[Claim 2]An arm of said right and left is attached pivotally by shaft-orientations both ends of a shaft which a device frame was made to support pivotally rockable, Approach said arm on said frame, a bracket is fixed, and connecting support of the stretching screw made to insert in at a tip of this bracket is carried out to said arm, A paper splicer of the rotary press according to claim 1 which a spring is incorporated between a supporter of said stretching screw, and said bracket, and is characterized by forming a stopper holding initial-setting power of said spring in said stretching screw.

[Claim 3]A paper splicer of the rotary press according to claim 2, wherein a end face of said bracket is arranged at the lower part of said arm, and a tip of said bracket extends to the slanting upper part, and said stretching screw crosses to a slanting lower part and is allocated to said paster roller in it.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention is furnished to the feeding part of a rotary press, and relates to the paper splicer of a rotary press which sticks the front of solvent of new rolling-up paper on the web currently supplied from the old rolling-up paper that a web should be supplied continuously, and is connected to it.

[0002]

[Description of the Prior Art][Outline ***** of the conventional-type paper splicer by which 5 and drawing 6 are furnished to the feeding part of a rotary press as for a Prior art.

It is ****(ing), and drawing 5 is the side view and drawing 6 is **.

Drawing 7 (a) and (b) shows the nonconformity-points (TECHNICAL PROBLEM) explanatory view of the above-mentioned paper splicer, and drawing 8 shows a new rolling-up paper cut-shaped (sticking part) example. Drawing 9 is an outline composition explanatory view of a general feeding part furnished to a rotary press. The reel stand furnished to the feeding part 1 of a rotary press constructs across the rolled form rolling-up paper with which printing is presented, and is equipment continuously supplied as the web 2. The central principal axis 27 of 2 sets of arms 26 is supported pivotally with the example shown in drawing 9 pivotable by the stand 28 set up above the floor level, and the arm 26 is able to carry out revolution setting out to arbitrary phase positions via the rotary driving means (motor) of a graphic display abbreviation.

[0003]Such an arm 26 can change from the arms 26a and 26b of the couple possessing a zipper to a point, and can carry out move opening and closing to the shaft orientations of the principal axis 27 independently, respectively. The motor which is a rotary driving means, and the revolution-rate-detection means of rolling-up paper are furnished to the above-mentioned chuck part.

It has come to be able to carry out the calculation measuring of the outside peripheral velocity of rolling-up paper (graphic display abbreviation).

And the cloth roller 29 is a guide idler made to support pivotally at the tip of the support 30 allocated to rectangular directions to the above-mentioned arm 26.

[0004]The frame 6 which slides on the paper splicer 4 in drawing 9 along with the rail 31, The paster roller 11 which can attach and detach on the new rolling-up paper 3, and presses the web 2 to the peripheral face of the new rolling-up paper 3, the knife 32 which cuts the old rolling-up paper after paper splicing, and the guide idlers 33 and 34 to which it shows a run of the web 2 are furnished. The web 2 of the old rolling-up paper with which it was equipped at the basis of the above-mentioned structure and the tip of the arm 26 will pass along a dancer roller device part through winding, the guide idler 33, the paster roller 11, and the guide idler 34, and also the cloth roller 29 will be sent into the printing department (graphic display abbreviation) of a next step.

[0005]If it is consumed by printing and the residue of the old rolling-up paper turns into below the specified quantity on the other hand, in order to feed with the web 2 continuously, it is made to connect by paper splicing. Approach the peripheral face of the new rolling-up paper 3, and the paper splicer 4 is made to fix in this paper splicing work, as the solid line in drawing 9 shows, After making the travel speed of the web 2 of the old rolling-up paper which rotates the new rolling-up paper 3 and runs the peripheral velocity of the roll concerned agree, the paster roller 11 is pushed to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3, and the web 2 of the old rolling-up paper is stuck on the new rolling-up paper 3. The knife 32 cuts the web 2 of the old rolling-up paper after attachment connection. The paper splicer 4 is retreated to the position of an alternate long and short dash line, and is made to stand by in drawing 9 after an appropriate time. The old rolling-up paper (*****) which became unnecessary by paper splicing, After rewinding and collecting the tail parts of the web 2 which it let out to the original roll side, a rotary transfer is carried out to P position in drawing 9, and after laying on the lifting table 35 of the cart which stands by the the opening of a zipper in a lifting position, it moves out of a production line and is discharged. Then, after carrying in into a line the cart which carried the new rolling-up paper 3 and raising the lifting table 35 to a predetermined height, the new rolling-up paper 3 is pinched from both ends by the zipper of the arm 26, and it equips with it.

[0006]After making the above-mentioned cart take out, the arrow direction in drawing 9 is made to rotate the arm 26, and the position of the rolling-up paper under supply and the rolling-up paper 3 with which it equipped newly is replaced. Rolling-up paper is continuously supplied by repeating the operation after it. A series of operations concerning attachment and detachment of the above-mentioned new rolling-up paper 3 can be performed automatically, without stopping a rotary press via the signal from a control device.

[0007][0007]. By the way, as for the conventional pace, - RA 11 is paper splicer ***** , as shown in drawing 5 and drawing 6.

It is a style so that it may be carried out and the web 2 of the old rolling-up paper under run may be forced to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3.

That is, it is fixed to the shaft 7 which the arms 9a and 9b of the couple which made the paster roller 11 support movably supported pivotally with the conventional paper splicer 4 via the bearing 5 on the frame 6 of the paper splicer 4 by the pin 36 grade. The head section of the air cylinder 19 is connected at the tip of the swinging arm 17 fixed to the different position of the shaft 7 by the pin 37.

The back end of this air cylinder 19 is supported rockable via the rocking lever shaft 18 made to protrude on the frame 6 of the paper splicer 4.

And the air cylinder 19 is connected to the compressor (air supply source) 22 via the piping 20, the electromagnetic valve 21, and the reducing valve 25 grade.

It is controlled by the control device 23 electrically connected with the electromagnetic valve 21.

It becomes possible by the elastic operation of the air cylinder 19 to make it attach and detach arbitrarily to the peripheral face of the new rolling-up paper 3 of the paster roller 11 made to support movably via the basis of the above-mentioned composition, the swinging arm 17, the shaft 7, and the arms 9a and 9b.

[0008]

[Problem to be solved by the invention]Next, the problem of such a conventional paper splicer 4 is explained. The rolled form rolling-up paper 3 is not necessarily constructed across a reel stand by the factor of manufacturing process, transport process, storage state, and others versatility as a perfect circle-like roll. That is, eccentricity may be carried out greatly or it may change. However, as mentioned above, the arms 9a and 9b of the right and left supported pivotally are fixed via the lock-pin 36, a key or a stacking bolt, etc. to the shaft 7 so that the paster roller 11 may become parallel [the conventional paper splicer 4] to the axial center of the rolling-up paper 3. Therefore, the new rolling-up paper 3 carried out eccentricity like drawing 7 (a), or the peripheral face changed like drawing 7 (b), and when it inclined covering the angle theta, and parallel and a crosswise outside surface pushed the paster roller 11 against the new rolling-up paper 3 concerned to the axial center of the new rolling-up paper 3, there were the following faults.

(1) To the outside surface of the new rolling-up paper 3, the cross direction of the paster roller 11 becomes per piece, and cannot press uniformly [right and left].

(2) When thrust is weak, the attachment at the time of paper splicing is not enough, and there is a possibility by the tension of the traveling web 2 that it may separate, a fracture, a slip of

paper, etc. may be generated, and paper splicing may go wrong.

(3) Failure in paper splicing stops a rotary press, it reduces productivity remarkably, spends a great labor and time on the restoration, and, occasionally it may damage a machine.

[0009]The method of preventing the extreme shortage of press by making the thickness of the elastic body of the peripheral face in (a) paster roller 11 increase as such a measure against fault, or making the hardness change or making (b) thrust increase etc. was taken. For example, JP,H8-169601,A has disclosed the sticking-by-pressure roller for being stuck by pressure to the leader provided with the adhesion component of the 2nd belt material rolled round by the storage roll turning around the 1st belt material it runs. In the sticking-by-pressure roller, two or more cells or only cells with which gas was filled are provided between the elastic ***** walls of a hollow cylinder form prolonged in same mind to the hanger tube and this hanger tube. However, in the sticking-by-pressure roller of this gazette indication, the pressure regulation of each part is difficult, and a possibility of producing poor press in the attachment range is, and also it becomes complicated [the structure of the roller itself].

[0010]One immobilization of the arms 9a and 9b for paster roller support which are the structural failure of prevention per piece is abolished, and the method of enabling rocking of the paster roller 11 along a rolling-up paper outside surface is indicated by JP,H8-2757,A. In the working example of the above-mentioned gazette, as a method of allocating a (A)2 piece air cylinder, (A1) Although a total of four examples of example ** to which a swinging arm type and a roller shaft (A2) carry out [roller shaft] direct-acting of the roller by the example and the air cylinder of one (B) to which direct-acting of a swinging arm type and the (A3) roller is carried out with a cantilevered suspension are explained in full detail by both-ends support, There is a fundamental technical problem described below as a paper splicer in a rotary press, and utilization is difficult. That is, the number of rotations of the new rolling-up paper which the present rotary press was accelerated and was described above is about 208 RPM, when a diameter is $\phi 1042\text{mm}$, for example, and time to rotate one time is only 0.28 second. And if a diameter becomes small, time to rotate one time will become still shorter. As usually shown in drawing 8, the surface of the new rolling-up paper 3 is made with the double-sided tape, and it is necessary to operate the paster roller 11 in the space except the attachment range on the circumference (contiguity), and it needs to change it into the state of pressing stably, at the time of paper splicing. The time will be about 0.14 second. However, in the method by the air cylinder of two examples (A) of a gazette indication, it is impossible to operate two air cylinders by the same timing phases, and it is well-known that big variation occurs according to the difference of a structure top and a state (operating resistance). Therefore, time is taken to carry out the stable press of the air cylinder on either side after an operation, poor press is produced including per [the crosswise piece in the attachment range], and, as a result, failure in paper splicing is made generated. On the other hand, the method of carrying out direct-

acting of the roller by the air cylinder of one example of another of a gazette indication (B), It is impossible to make it change to the equal pressing state which there is no means which carries out maintenance regulation of the inclination of a roller at the time of an operation, might press by roller inclination contrary to a rolling-up paper outside surface, and met the rolling-up paper outside surface by friction between a roller and rolling-up paper in that case for a short time. Therefore, poor press is made generated as well as (A).

[0011]This invention is made in view of such the actual condition, and the purpose is to provide the paper splicer of the rotary press in which it is [that the conventional problem should be solved] possible to stick stably and certainly the front of solvent of new rolling-up paper on the web under run, and to make it connect with it.

[0012]

[Means for solving problem]In order to solve the problem which the above-mentioned conventional technology has, this invention, In the paper splicer of the rotary press provided with the paster roller which presses the web it runs to the peripheral face of new rolling-up paper, When the arm of the right and left which support said paster roller is provided rockable via a spring, respectively and there is no thrust in said paster roller, it constitutes so that the arm of said right and left may operate in one.

[0013]

[Mode for carrying out the invention]Hereafter, this invention is explained in detail based on the embodiment of a graphic display. Drawing 1 and drawing 2 are the explanatory views of the composition of a paper splicer, and a function concerning the embodiment of this invention furnished to the feeding part of a rotary press here, drawing 1 is the side view and drawing 2 is the front view. Drawing 3 and drawing 4 are the important section detail views of the above-mentioned paper splicer.

[0014]In the feeding part 1 of a rotary press, the paper splicer 4 concerning the embodiment of this invention aims at sticking stably and certainly the front of solvent of the new rolling-up paper 3 on the traveling web 2 of the old rolling-up paper whose residue decreased, and making it connect with it that the web 2 should be supplied continuously, and explains the composition below. As shown in drawing 1 - drawing 4, the arms 9a and 9b of the right-and-left couple constituted so that it could rock freely via bearing (or plain bearing) 8 grade to the shaft-orientations both-ends side of the shaft 7 which the device frame 6 was made to support pivotally via the bearing 5 are attached pivotally with the paper splicer 4 of this embodiment.

[0015]At the tip of the above-mentioned arms 9a and 9b, the paster roller 11 is supported pivotally via the automatic alignment type bearing 10, and it is constituted so that the angle variation of the arms 9a and 9b and the paster roller 11 can be permitted to some extent by this (absorption). Commercial use of the automatic alignment type bearing (spherical bearing is also the same) 10 may be carried out from the former as a bearing which permits the

inclination rotation by the inclination movable of a solid of revolution, or an assembly error. The arms 9a and 9b on the shaft 7 are approached, the brackets 12a and 12b are fixed, the stretching screw 14 is inserted in at the tip of these brackets 12a and 12b, and connecting support of this stretching screw 14 is carried out to the arms 9a and 9b via the pin 13. For this reason, the end face of the brackets 12a and 12b has been arranged at the lower part of the arms 9a and 9b, that tip has extended to the slanting upper part, and to the paster roller 11, the stretching screw 14 crosses to a slanting lower part, and is allocated in it. Between pin 13 side support portion of the stretching screw 14, and the brackets 12a and 12b, the compression spring 16 is incorporated in the state where the stretching screw 14 was made to insert. And as shown in drawing 4, the nut 15 for adjustment is screwed in the stretching screw 14 by the undersurface side of the bracket 12, it is a nut which serves as the slip off stop of the stretching screw 14, and this nut 15 for adjustment is also a stopper which holds the compression spring 16 in initial-setting power.

[0016]On the other hand, the swinging arm 17 is fixed to the single-sided end of the above-mentioned shaft 7. And the air cylinder 19 is connected with the point of the swinging arm 17 rockable by the pin 37, and the back end of this air cylinder 19 is supported movably with the rocking lever shaft 18 attached to the frame 6. Connection of the air pipe 20 to the air cylinder 19, the electromagnetic valve 21, the reducing valve 25, and the compressor 22 and the control device 23 are the same as that of what was explained by the conventional clause.

[0017]The position in readiness that a crevice is slightly made to the peripheral face of the new rolling-up paper 3 is set to the above-mentioned paster roller 11 at the time of the maximum extension of the air cylinder 19. The basis of the above-mentioned composition and the paster roller 11 can carry out rocking attachment and detachment a center [the shaft 7] by the elastic operation of the air cylinder 19 in the actuated position which joins a position in readiness and the web 2 to the peripheral face of the new rolling-up paper 3.

[0018]Next, the operation of the paper splicer 4 of a rotary press and effect concerning the embodiment of this invention are explained. That is, the paper splicer 4 of this embodiment constituted as mentioned above has a series of functions stuck and connected to the web 2 of the old rolling-up paper under run [front of solvent of the new rolling-up paper 3] like what was explained in the clause of the conventional technology mentioned already. To it, in addition, as 11 copies of paster rollers are shown in drawing 1 - drawing 4, in order that the web 2 of the old rolling-up paper under run may be forced to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3, By the elastic operation of the air cylinder 19, the paster roller 11 which the arms 9a and 9b of the right-and-left couple were made to support movably via the swinging arm 17, the shaft 7, the brackets 12a and 12b, the compression spring 16, and the stretching screw 14, Rocking attachment and detachment can be carried out now to the peripheral face of the new rolling-up paper 3.

[0019]That is, the paster roller 11 of the paper splicer 4 concerning the embodiment of this invention, At the time of an attachment-and-detachment operation, the 15th page of the nut for adjustment which is a stopper is dashed by the brackets 12a and 12b with the initial-setting power (compression repulsive force) of the compression spring 16, and where the arms 9a and 9b are fixed to the shaft 7, rocking attachment and detachment is carried out. The compression spring 16 on either side carries out initial-complement contraction of the time of the press to the peripheral face of the new rolling-up paper 3 by the thrust, respectively, and the paster roller 11 which the arms 9a and 9b were made to support movably inclines along the peripheral face of the new rolling-up paper 3. Thereby, it becomes possible to give sufficient thrust for paper splicing junction uniformly covering overall width, without the paster roller 11 producing per piece also to modification of the outside surface of the new rolling-up paper 3. The thrust of the paster roller 11 The load rate of the compression spring 16, the initial-setting power of the compression spring 16, It can change suitably with the pushing quantity (stroke of the air cylinder 19) of the paster roller 11, the air pressure of the cylinder 19, etc., and the crosswise length of the paster roller 11, the other specifications of the new rolling-up paper 3, etc. came to be able to carry out adjustment setting to an optimum value corresponding to the situation.

[0020]Therefore, according to the paper splicer 4 of the embodiment of this invention, the following effects came to be acquired.

(1) Since rocking attachment and detachment of the arms 9a and 9b of the right and left which support the paster roller 11 is carried out in one, the operation of the paster roller 11 can be stabilized and thrust can be made to act on the new rolling-up paper 3 to exact timing by the one air cylinder 19.

(2) Since the modification is absorbed with the compression spring 16 also to the outside surface of the new rolling-up paper 3 which changed at the time of press, the paster roller 11 inclines along with the new rolling-up paper 3, and can give thrust with an equal rear spring supporter to overall width.

[0021]As mentioned above, although attached and stated to the embodiment of the invention, this invention is a range which is not limited to an embodiment as stated above and does not deviate from the summary of this invention, and various kinds of modification and change are possible for it based on the technical idea of this invention. For example, although the air cylinder 19 of an embodiment as stated above is a single acting type, a double acting thing is adopted, the circuit of compressed air is switched via an electromagnetic valve, and it is good also as a structure which carries out a both-way drive (graphic display abbreviation). It is also possible to constitute from structure which uses an extension spring instead of the compression spring 16.

[0022]

[Effect of the Invention]The paper splicer of the rotary press which starts this invention like ****, It has a paster roller which presses the web it runs to the peripheral face of new rolling-up paper, Since it constitutes so that the arm of said right and left may operate in one when the arm of the right and left which support said paster roller is provided rockable via a spring, respectively and there is no thrust in said paster roller, The front of solvent of new rolling-up paper can be stuck on the web under run stably and certainly, and it can be made to connect with it, and it becomes unnecessary to be able to stop operation of a rotary press, and improvement in quality and productivity can be aimed at.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Field of the Invention]This invention is furnished to the feeding part of a rotary press, and relates to the paper splicer of a rotary press which sticks the front of solvent of new rolling-up paper on the web currently supplied from the old rolling-up paper that a web should be supplied continuously, and is connected to it.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any
damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art][Outline ***** of the conventional-type paper splicer by which 5
and drawing 6 are furnished to the feeding part of a rotary press as for a Prior art.

It is ****(ing), and drawing 5 is the side view and drawing 6 is **.

Drawing 7 (a) and (b) is nonconformity points of the above-mentioned paper splicer.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any
damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention]The paper splicer of the rotary press which starts this invention like ****, It has a paster roller which presses the web it runs to the peripheral face of new rolling-up paper, Since it constitutes so that the arm of said right and left may operate in one when the arm of the right and left which support said paster roller is provided rockable via a spring, respectively and there is no thrust in said paster roller, The front of solvent of new rolling-up paper can be stuck on the web under run stably and certainly, and it can be made to connect with it, and it becomes unnecessary to be able to stop operation of a rotary press, and improvement in quality and productivity can be aimed at.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

TECHNICAL PROBLEM

(TECHNICAL PROBLEM) An explanatory view and drawing 8 show a new rolling-up paper cut-shaped (sticking part) example. Drawing 9 is an outline composition explanatory view of a general feeding part furnished to a rotary press. The reel stand furnished to the feeding part 1 of a rotary press constructs across the rolled form rolling-up paper with which printing is presented, and is equipment continuously supplied as the web 2. The central principal axis 27 of 2 sets of arms 26 is supported pivotally with the example shown in drawing 9 pivotable by the stand 28 set up above the floor level, and the arm 26 is able to carry out revolution setting out to arbitrary phase positions via the rotary driving means (motor) of a graphic display abbreviation.

[0003] Such an arm 26 can change from the arms 26a and 26b of the couple possessing a zipper to a point, and can carry out move opening and closing to the shaft orientations of the principal axis 27 independently, respectively. The motor which is a rotary driving means, and the revolution-rate-detection means of rolling-up paper are furnished to the above-mentioned chuck part.

It has come to be able to carry out the calculation measuring of the outside peripheral velocity of rolling-up paper (graphic display abbreviation).

And the cloth roller 29 is a guide idler made to support pivotally at the tip of the support 30 allocated to rectangular directions to the above-mentioned arm 26.

[0004] The frame 6 which slides on the paper splicer 4 in drawing 9 along with the rail 31, The paster roller 11 which can attach and detach on the new rolling-up paper 3, and presses the web 2 to the peripheral face of the new rolling-up paper 3, the knife 32 which cuts the old rolling-up paper after paper splicing, and the guide idlers 33 and 34 to which it shows a run of the web 2 are furnished. The web 2 of the old rolling-up paper with which it was equipped at the basis of the above-mentioned structure and the tip of the arm 26 will pass along a dancer roller device part through winding, the guide idler 33, the paster roller 11, and the guide idler

34, and also the cloth roller 29 will be sent into the printing department (graphic display abbreviation) of a next step.

[0005]If it is consumed by printing and the residue of the old rolling-up paper turns into below the specified quantity on the other hand, in order to feed with the web 2 continuously, it is made to connect by paper splicing. Approach the peripheral face of the new rolling-up paper 3, and the paper splicer 4 is made to fix in this paper splicing work, as the solid line in drawing 9 shows, After making the travel speed of the web 2 of the old rolling-up paper which rotates the new rolling-up paper 3 and runs the peripheral velocity of the roll concerned agree, the paster roller 11 is pushed to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3, and the web 2 of the old rolling-up paper is stuck on the new rolling-up paper 3. The knife 32 cuts the web 2 of the old rolling-up paper after attachment connection. The paper splicer 4 is retreated to the position of an alternate long and short dash line, and is made to stand by in drawing 9 after an appropriate time. The old rolling-up paper (*****) which became unnecessary by paper splicing, After rewinding and collecting the tail parts of the web 2 which it let out to the original roll side, a rotary transfer is carried out to P position in drawing 9, and after laying on the lifting table 35 of the cart which stands by by the opening of a zipper in a lifting position, it moves out of a production line and is discharged. Then, after carrying in into a line the cart which carried the new rolling-up paper 3 and raising the lifting table 35 to a predetermined height, the new rolling-up paper 3 is pinched from both ends by the zipper of the arm 26, and it equips with it.

[0006]After making the above-mentioned cart take out, the arrow direction in drawing 9 is made to rotate the arm 26, and the position of the rolling-up paper under supply and the rolling-up paper 3 with which it equipped newly is replaced. Rolling-up paper is continuously supplied by repeating the operation after it. A series of operations concerning attachment and detachment of the above-mentioned new rolling-up paper 3 can be performed automatically, without stopping a rotary press via the signal from a control device.

[0007][0007]. By the way, as for the conventional pace, - RA 11 is paper splicer *****, as shown in drawing 5 and drawing 6.

It is a style so that it may be carried out and the web 2 of the old rolling-up paper under run may be forced to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3.

That is, it is fixed to the shaft 7 which the arms 9a and 9b of the couple which made the paster roller 11 support movably supported pivotally with the conventional paper splicer 4 via the bearing 5 on the frame 6 of the paper splicer 4 by the pin 36 grade. The head section of the air cylinder 19 is connected at the tip of the swinging arm 17 fixed to the different position of the shaft 7 by the pin 37.

The back end of this air cylinder 19 is supported rockable via the rocking lever shaft 18 made

to protrude on the frame 6 of the paper splicer 4.

And the air cylinder 19 is connected to the compressor (air supply source) 22 via the piping 20, the electromagnetic valve 21, and the reducing valve 25 grade.

It is controlled by the control device 23 electrically connected with the electromagnetic valve 21.

It becomes possible by the elastic operation of the air cylinder 19 to make it attach and detach arbitrarily to the peripheral face of the new rolling-up paper 3 of the paster roller 11 made to support movably via the basis of the above-mentioned composition, the swinging arm 17, the shaft 7, and the arms 9a and 9b.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

MEANS

[Means for solving problem]In order to solve the problem which the above-mentioned conventional technology has, this invention, In the paper splicer of the rotary press provided with the paster roller which presses the web it runs to the peripheral face of new rolling-up paper, When the arm of the right and left which support said paster roller is provided rockable via a spring, respectively and there is no thrust in said paster roller, it constitutes so that the arm of said right and left may operate in one.

[0013]

[Mode for carrying out the invention]Hereafter, this invention is explained in detail based on the embodiment of a graphic display. Drawing 1 and drawing 2 are the explanatory views of the composition of a paper splicer, and a function concerning the embodiment of this invention furnished to the feeding part of a rotary press here, drawing 1 is the side view and drawing 2 is the front view. Drawing 3 and drawing 4 are the important section detail views of the above-mentioned paper splicer.

[0014]In the feeding part 1 of a rotary press, the paper splicer 4 concerning the embodiment of this invention aims at sticking stably and certainly the front of solvent of the new rolling-up paper 3 on the traveling web 2 of the old rolling-up paper whose residue decreased, and making it connect with it that the web 2 should be supplied continuously, and explains the composition below. As shown in drawing 1 - drawing 4, the arms 9a and 9b of the right-and-left couple constituted so that it could rock freely via bearing (or plain bearing) 8 grade to the shaft-orientations both-ends side of the shaft 7 which the device frame 6 was made to support pivotally via the bearing 5 are attached pivotally with the paper splicer 4 of this embodiment.

[0015]At the tip of the above-mentioned arms 9a and 9b, the paster roller 11 is supported pivotally via the automatic alignment type bearing 10, and it is constituted so that the angle variation of the arms 9a and 9b and the paster roller 11 can be permitted to some extent by this (absorption). Commercial use of the automatic alignment type bearing (spherical bearing is

also the same) 10 may be carried out from the former as a bearing which permits the inclination rotation by the inclination movable of a solid of revolution, or an assembly error. The arms 9a and 9b on the shaft 7 are approached, the brackets 12a and 12b are fixed, the stretching screw 14 is inserted in at the tip of these brackets 12a and 12b, and connecting support of this stretching screw 14 is carried out to the arms 9a and 9b via the pin 13. For this reason, the end face of the brackets 12a and 12b has been arranged at the lower part of the arms 9a and 9b, that tip has extended to the slanting upper part, and to the paster roller 11, the stretching screw 14 crosses to a slanting lower part, and is allocated in it. Between pin 13 side support portion of the stretching screw 14, and the brackets 12a and 12b, the compression spring 16 is incorporated in the state where the stretching screw 14 was made to insert. And as shown in drawing 4, the nut 15 for adjustment is screwed in the stretching screw 14 by the undersurface side of the bracket 12, it is a nut which serves as the slip off stop of the stretching screw 14, and this nut 15 for adjustment is also a stopper which holds the compression spring 16 in initial-setting power.

[0016]On the other hand, the swinging arm 17 is fixed to the single-sided end of the above-mentioned shaft 7. And the air cylinder 19 is connected with the point of the swinging arm 17 rockable by the pin 37, and the back end of this air cylinder 19 is supported movably with the rocking lever shaft 18 attached to the frame 6. Connection of the air pipe 20 to the air cylinder 19, the electromagnetic valve 21, the reducing valve 25, and the compressor 22 and the control device 23 are the same as that of what was explained by the conventional clause.

[0017]The position in readiness that a crevice is slightly made to the peripheral face of the new rolling-up paper 3 is set to the above-mentioned paster roller 11 at the time of the maximum extension of the air cylinder 19. The basis of the above-mentioned composition and the paster roller 11 can carry out rocking attachment and detachment a center [the shaft 7] by the elastic operation of the air cylinder 19 in the actuated position which joins a position in readiness and the web 2 to the peripheral face of the new rolling-up paper 3.

[0018]Next, the operation of the paper splicer 4 of a rotary press and effect concerning the embodiment of this invention are explained. That is, the paper splicer 4 of this embodiment constituted as mentioned above has a series of functions stuck and connected to the web 2 of the old rolling-up paper under run [front of solvent of the new rolling-up paper 3] like what was explained in the clause of the conventional technology mentioned already. To it, in addition, as 11 copies of paster rollers are shown in drawing 1 - drawing 4, in order that the web 2 of the old rolling-up paper under run may be forced to the predetermined timing corresponding to the cut position of the front of solvent of the new rolling-up paper 3, By the elastic operation of the air cylinder 19, the paster roller 11 which the arms 9a and 9b of the right-and-left couple were made to support movably via the swinging arm 17, the shaft 7, the brackets 12a and 12b, the compression spring 16, and the stretching screw 14, Rocking attachment and detachment can

be carried out now to the peripheral face of the new rolling-up paper 3.

[0019]That is, the paster roller 11 of the paper splicer 4 concerning the embodiment of this invention, At the time of an attachment-and-detachment operation, the 15th page of the nut for adjustment which is a stopper is dashed by the brackets 12a and 12b with the initial-setting power (compression repulsive force) of the compression spring 16, and where the arms 9a and 9b are fixed to the shaft 7, rocking attachment and detachment is carried out. The compression spring 16 on either side carries out initial-complement contraction of the time of the press to the peripheral face of the new rolling-up paper 3 by the thrust, respectively, and the paster roller 11 which the arms 9a and 9b were made to support movably inclines along the peripheral face of the new rolling-up paper 3. Thereby, it becomes possible to give sufficient thrust for paper splicing junction uniformly covering overall width, without the paster roller 11 producing per piece also to modification of the outside surface of the new rolling-up paper 3. The thrust of the paster roller 11 The load rate of the compression spring 16, the initial-setting power of the compression spring 16, It can change suitably with the pushing quantity (stroke of the air cylinder 19) of the paster roller 11, the air pressure of the cylinder 19, etc., and the crosswise length of the paster roller 11, the other specifications of the new rolling-up paper 3, etc. came to be able to carry out adjustment setting to an optimum value corresponding to the situation.

[0020]Therefore, according to the paper splicer 4 of the embodiment of this invention, the following effects came to be acquired.

(1) Since rocking attachment and detachment of the arms 9a and 9b of the right and left which support the paster roller 11 is carried out in one, the operation of the paster roller 11 can be stabilized and thrust can be made to act on the new rolling-up paper 3 to exact timing by the one air cylinder 19.

(2) Since the modification is absorbed with the compression spring 16 also to the outside surface of the new rolling-up paper 3 which changed at the time of press, the paster roller 11 inclines along with the new rolling-up paper 3, and can give thrust with an equal rear spring supporter to overall width.

[0021]As mentioned above, although attached and stated to the embodiment of the invention, this invention is a range which is not limited to an embodiment as stated above and does not deviate from the summary of this invention, and various kinds of modification and change are possible for it based on the technical idea of this invention. For example, although the air cylinder 19 of an embodiment as stated above is a single acting type, a double acting thing is adopted, the circuit of compressed air is switched via an electromagnetic valve, and it is good also as a structure which carries out a both-way drive (graphic display abbreviation). It is also possible to constitute from structure which uses an extension spring instead of the compression spring 16.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is a side view showing the paper splicer of the rotary press concerning an embodiment of the invention.

[Drawing 2] It is a front view showing the paper splicer of the rotary press concerning an embodiment of the invention.

[Drawing 3] It is an A-A line view figure in drawing 2.

[Drawing 4] It is a B-B line view figure in drawing 2.

[Drawing 5] It is a side view showing the conventional paper splicer furnished to the feeding part of a rotary press.

[Drawing 6] It is a front view showing the conventional paper splicer furnished to the feeding part of a rotary press.

[Drawing 7] (a) and (b) are the explanatory views showing the nonconformity points of the conventional paper splicer.

[Drawing 8] It is a schematic view showing the cut form of new rolling-up paper.

[Drawing 9] It is an outline block diagram showing the general feeding part furnished to a rotary press.

[Explanations of letters or numerals]

- 1 The feeding part of a rotary press
- 2 Web
- 3 New rolling-up paper
- 4 Paper splicer
- 5 Bearing
- 6 Frame
- 7 Shaft
- 8 Bearing

- 9 Arm
- 10 Automatic alignment type bearing
- 11 Paster roller
- 12 Bracket
- 13 Pin
- 14 Stretching screw
- 15 The nut for adjustment (stopper)
- 16 Compression spring
- 17 Swinging arm
- 18 Rocking lever shaft
- 19 Air cylinder

[Translation done.]

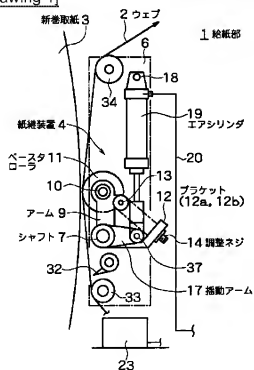
* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

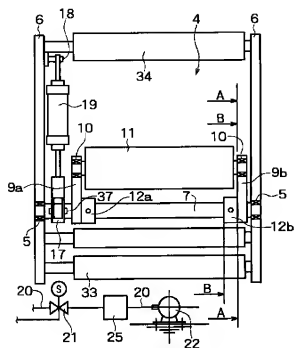
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

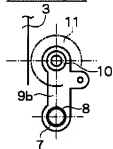
[Drawing 1]



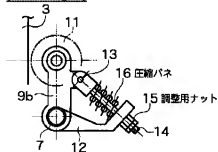
[Drawing 2]



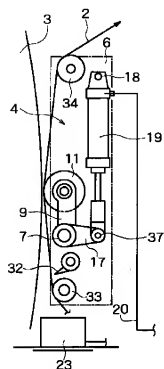
[Drawing 3]



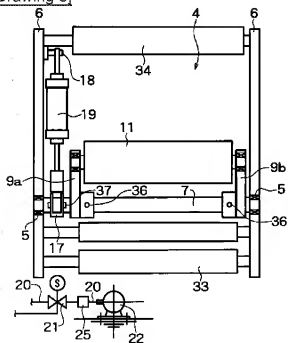
[Drawing 4]



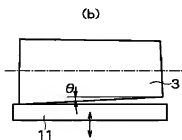
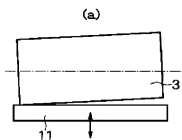
[Drawing 5]



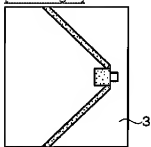
[Drawing 6]



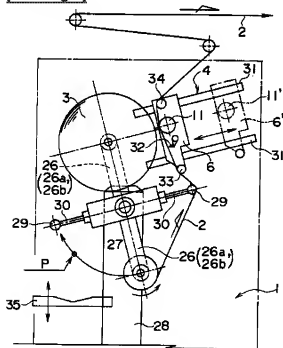
[Drawing 7]



[Drawing 8]



[Drawing 9]



[Translation done.]